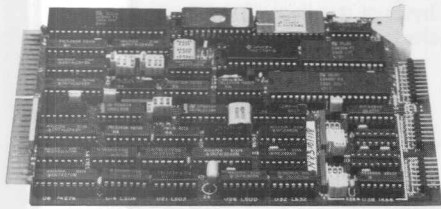


# STD BUS Product Guide

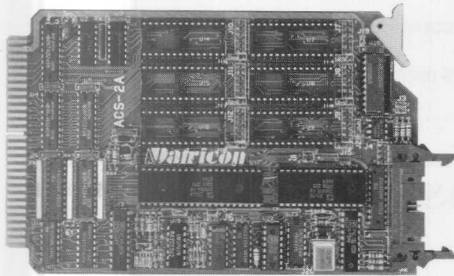
## PROCESSORS



### ACS-80-4/ACS-80-6 Z80 Processor Board

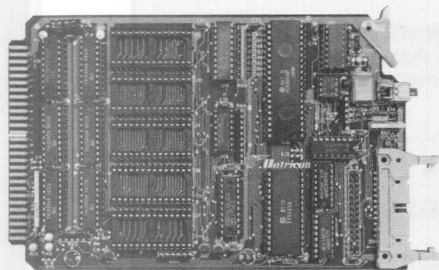
- Socket for AMD 9511 or AMD 9512 coprocessors
- CTC with off-board connection
- Z80-SIO-based serial ports
- Software baud-rate control to 19.2K Baud
- RS232 or RS422 configuration
- 4 or 6 MHz operation
- MMU handles 256Kb memory
- Two byte-wide memory sockets

ELECTRONIC BUILDING ELEMENTS  
(PTY.) LIMITED  
P.O. BOX 4609  
PRETORIA 0081  
PHONE: 46-9221 / 6



### ACS-2A-2/2A-4/2A-6 Z80 Central Processor Module with Timers

- Functionally identical to Mostek's CPU2A
- Z80 microprocessor
- 4-channel counter/timer
- 2.5, 4 and 6 Megahertz versions
- Six 28-pin byte-wide memory sockets for popular RAM, EPROM or ROM devices for an on-board maximum capacity of 96K bytes
- Full support of MEMEX (Memory Expansion Signal) and IOEXP



### ACS-09/09B Single Board Microcomputer

- 6809 microprocessor
- 1 and 2 Megahertz versions
- User Selectable RS232C/RS422 Serial Port that offers software programmable baud rates from 50 to 19,200 baud, parity control, full or half duplex, echo mode, 1, 1½, or 2 stop bits plus standard modem controls
- Five 28-pin byte-wide memory sockets for popular RAM, EPROM or ROM devices for an on-board maximum capacity of 40K bytes
- Fully buffered from bus activity

Available October  
1984

### ACS-29-2 Enhanced 6809 Single Board Computer

- Four 28-pin byte-wide memory sockets
- Two full-function serial ports, RS232 or 422
- On-board 16-bit timer for multi-tasking control
- Vectored-interrupt support
- Memory management
- Battery-backed calendar clock and RAM

Available September  
1984

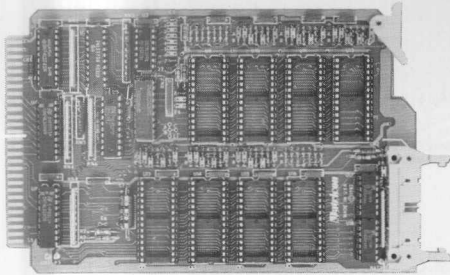
### ACS-68SBC 68008-based Single Board Computer

- Multiplexed data/address for direct 1MByte address range
- Two fully software controlled RS232/422 serial ports
- On-board 16-bit timer for multi-tasking
- Four byte-wide memory sockets for up to 256K bytes of memory
- Calendar clock and battery backed RAM support
- Timing compatibility with current Datricon High-Performance peripherals
- 8 MHz processor clock

## MEMORY SYSTEMS

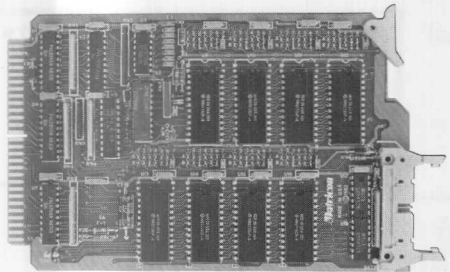
### MS-128 Universal Memory

- STD-Z80, STD-8085 and STD-68xx compatible
- Full 128K decoding
- Devices up to 32K x 8
- Eight 28-pin byte-wide memory sockets for popular RAM, EPROM or ROM devices enabling access to the full 128K bytes of standard STD Bus memory
- On-board PROM that provides jumper selection of memory maps



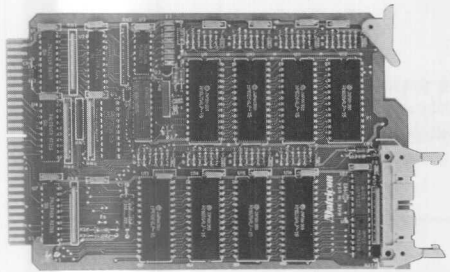
### MS-2B/4B/8B/16B Non-volatile CMOS Memory

- Fully static CMOS RAM
- Advanced on-board battery and power-down detect circuitry
- 250 nanosecond access time devices
- STD-Z80, STD-8085 and STD-68xx compatibility
- Full standard STD Bus 128K decoding
- Addressable at 16K boundaries in either memory page



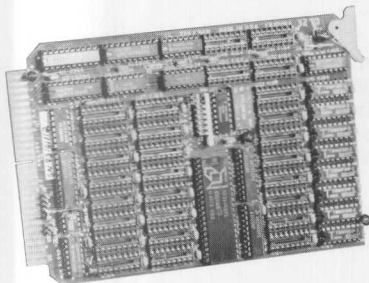
### MS-16S/32S/48S/64S Static CMOS Memory

- Fully static CMOS memory
- Access to battery, power-down detect and write-protect circuitry on the compatible RTX module
- 250 nanosecond access time devices
- STD-Z80, STD-8085 and STD-68xx compatibility
- Full standard STD Bus compatible 128K decoding
- Addressable at 16K boundaries in either memory page



### Z80-DR64/Z80-DR128/Z80-DR256 Z80-DRAM Dynamic Memory Board

- 64, 128, 256 Kb parity memory
- On-board refresh controller for pseudo-static operation
- STD-Z80 compatible at 4 or 6 MHz



### MSB-64 64k Universal Memory Board with Battery Back-up

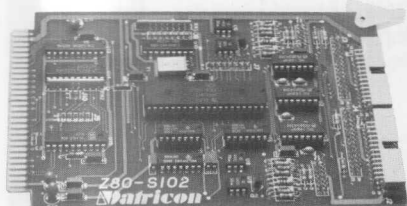
- Accommodates up to 64K of RAM.
- STD-Z80, 8085, 68xx, 8088 and 68000 compatibility.
- Configurable to accept 2Kx8 or 8Kx8 devices.
- Supports 20-bit addressing.
- Supports MEMEX for up to 2 megabytes of memory space.
- On-board DC power-fail detection.
- On-board batteries for CMOS RAM data retention.
- Connector for external memory board selection.

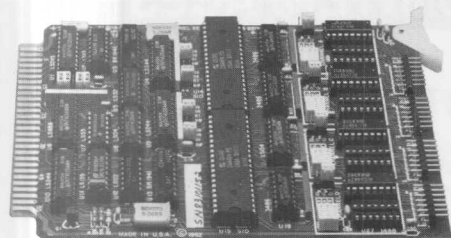
Available August  
1984

## COMMUNICATIONS

### Z80-SIO2-4/Z80-SIO2-6 Dual Serial Communications Ports

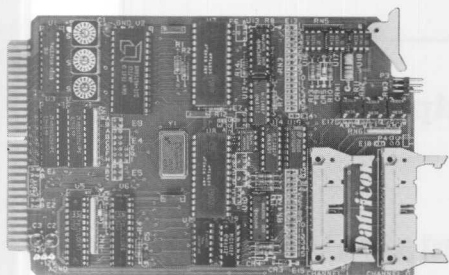
- Completely hardware and software compatible with the MDX-SIO2
- Asynchronous communication to 9600 Baud
- Synchronous communication
- HDLC and SDLC support
- RS232 interface buffers and 20 mA current-loop
- Operation at 4 or 6 MHz
- STD-Z80 compatible at 4 or 6 MHz





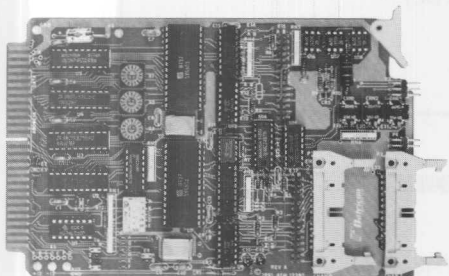
## **Z80-SIO4-4/Z80-SIO4-6 Quad Serial Communications Ports**

- Asynchronous communication to 9600 Baud
- Synchronous communication
- HDLC or SDLC support
- RS232 or RS422 interface buffers
- STD-Z80 compatible at 4 MHz or 6 MHz



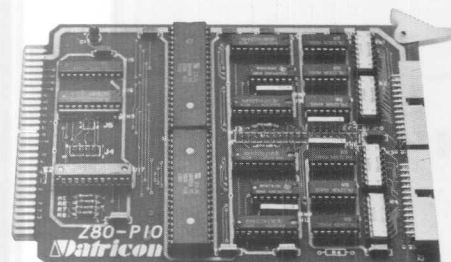
## **SER-04 Enhanced Dual Serial Port**

- STD-Z80, STD-8085, STD-8088, STD-68xx and 68000 compatible
- On-board priority interrupt controller
- Synchronous or Asynchronous Communications
- 2 user-configurable RS232C/RS422 Serial Ports that are software programmable for baud rates from 50 to 19,200 baud, parity control, full or half duplex, echo mode, 1, 1½, or 2 stop bits plus standard modem controls



## **SER-02B Dual Serial Port**

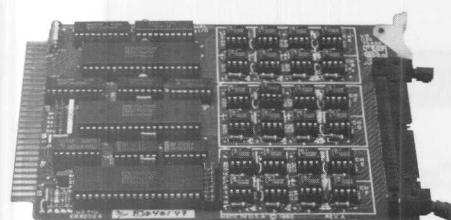
- STD-68xx Compatible at up to 2 MHz
- One channel configurable as an isolated 20mA Current Loop
- Supports Asynchronous Communications
- 2 user-configurable RS232C/RS422 Serial Ports that are software programmable for baud rates from 50 to 19,200 baud, parity control, full or half duplex, echo mode, 1, 1½, or 2 stop bits plus standard modem controls. Full DTE/DCE wire-wrap configuration.



## **PARALLEL I/O INTERFACES**

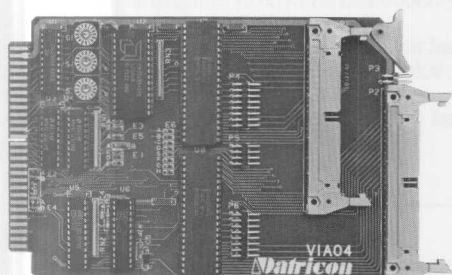
### **Z80-PIO-4/Z80-PIO-6 32-bit Parallel I/O Boards**

- Software and hardware compatible with the MDX-PIO
- I/O line are buffered
- Removable termination resistors
- STD-Z80 compatible at 4 MHz or 6 MHz



### **Z80-PIO3 48-bit Open-Collector Driver Board**

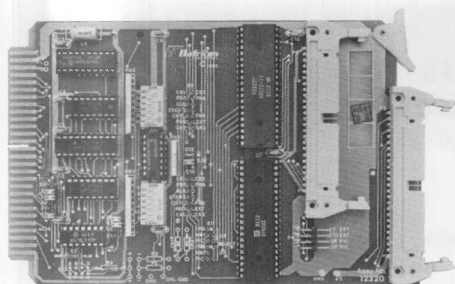
- Open collector drivers
- Outputs up to 55VDC at 300mA
- 9-bit addressing
- Direct drive of relays and displays
- Fast interrupt chaining
- STD-Z80 compatible at 4 or 6 MHz



### **VIA-04 Parallel Input/Output Port**

- STD-Z80, STD-8085, STD-8088, STD-68xx and 68000 compatible
- 48-bits of parallel Input and/or Outputs
- On-board software controlled priority interrupt controller
- Direct connection to OPTO-22 style solid-state relay racks



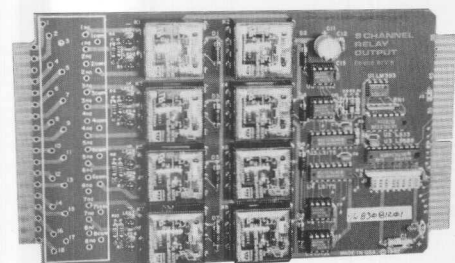


## PARALLEL I/O INTERFACES

### VIA-02B

#### Parallel Input/Output Port

- STD-68xx compatible up to 2 MHz
- 32-bits of parallel Input and/or Outputs
- Bit-independent data direction registers
- Four software programmable timers and/or counters, or serial ports
- Direct connection to OPTO-22 style solid-state relay racks



### DO-16

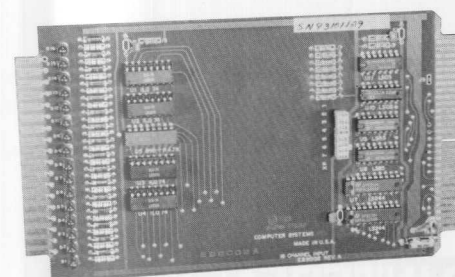
#### Low Current Relay Output Board

- The DO-16 provides 16 DIP relays
- Processor independent

### DO-8

#### High-Current Relay Output Board

- Eight dual-point form-C relays
- Rated at 3A (125, 250VAC) or 5A (30VDC)
- Completely configurable
- Guaranteed reset on power-up
- Processor independent



### DI-16

#### Opto-Isolated Input Board

- Two 8-bit input ports
- Processor independent
- Addressable at any even address in I/O page
- IOEXP supported

Available August  
1984

### TTL-64

#### Configurable Parallel I/O Board

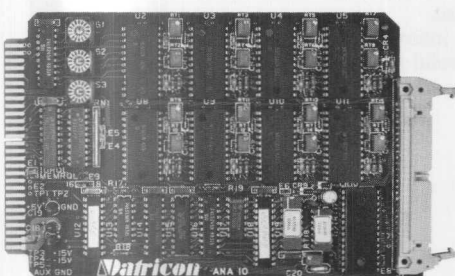
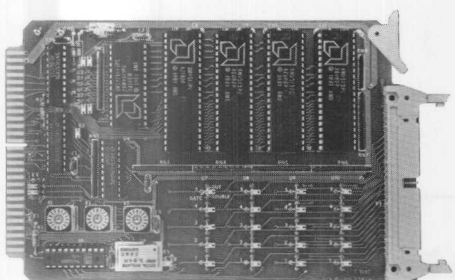
- Eight 8-bit I/O ports
- 16-bit address decoding
- Universal processor compatibility
- High I/O density
- TTL drive on all lines
- Functional compatibility with Pro Log 7601, 7602, 7603 and 7604

## SPECIAL I/O INTERFACES

### CFIO-20/CFIO-5

#### Counter/Frequency Controller

- 16-bit counters, cascable to 80 bits
- 20 and 5 channels of advanced general purpose software-controlled digital timing functions on CFIO-20 and CFIO-5 respectively
- STD-Z80, STD-8085, STD-8088, STD-68000 and STD-68xx compatibility
- On-board priority interrupt controller
- Applications include 7 MHz event count accumulation and an interface to high-accuracy analog transducers with voltage-to-frequency outputs or frequency-to-voltage inputs.
- An in-depth application note is supplied with the board



### ANA-10

#### Analog Input and Output

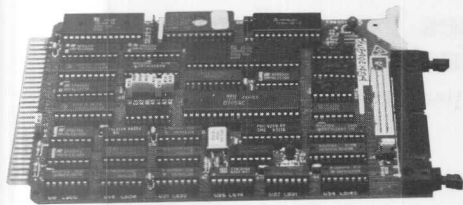
Analog input and output module ideal for digital process control of cascaded/non-cascaded Proportional-Integral-Differential (PID) loops, features:

- 16 channels of 10-bit, 25 microsecond conversion time analog input (A to D)
- STD-Z80, STD-8085, STD-8088, STD-68000 and STD-68xx compatibility
- 8 channels of 10-bit latched analog output (D to A) with independent span and offset adjust
- Direct connect to popular signal conditioning and interface racks

## MASS STORAGE INTERFACES

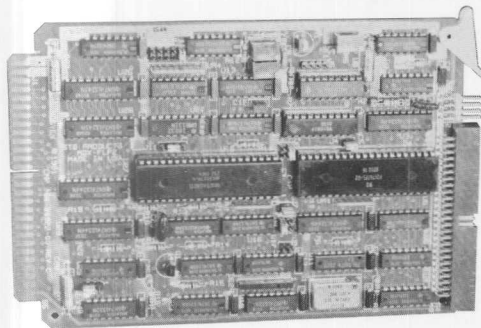
### Z80-IFDC-4/Z80-IFDC-6 Intelligent Floppy Disk Controllers

- Simple software and high throughput with on-board Z80
- Mixed 8", 5.25" and 3.5" drives, DS, DD drives
- Logical or absolute sector addressing
- Automatic format determination
- Format command with selection of 32 formats
- STD-Z80 compatible at 4MHz or 6 MHz



### FDC-09 Floppy Disk Controller

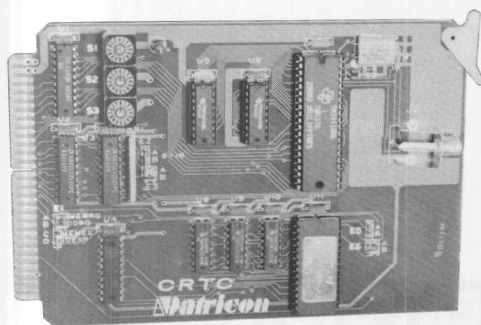
- A STD-6809 compatible controller that supports all common disk formats. Operation is pulled or interrupt driven, with support for double-density.
- Supports single and double side drives.
- Supports single and double density.
- Supports 8 or 5-1/4 inch drives.
- Supports 48 or 96 TPI drives.



## ACCESSORIES

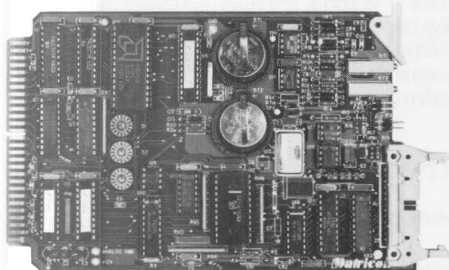
### CRT-VDP STD Bus Color Graphics Controller

- TMS 9118A Video Display Processor
- TEXT MODE: 24 lines of 40 characters in black/white or two colors.
- GRAPHICS MODE: 24 lines of 32 characters (256 x 192 pixels) in 15 colors.
- Sprite Graphics provide easy definition and motion of user-defined shape or characters in any of 32 prioritized planes.
- Color or Black/White operation with direct video output.
- Only 5 I/O Addresses required: 16K of video RAM and 4K character generator ROM do not impact system memory space.
- AUTO-INCREMENT ADDRESSING MODE: For fast and simple access of video and character generator memory.
- On-Board Character Generator EPROM (2732) with space for 2 character set.
- No timing constraints on writing to CRT
- No interrupts required
- Z80, 8085, 8088, 6809, 68000 compatible to 250ns cycle time.



### RTX Real-Time Clock and Memory Support

- Time-of-day calendar with software programmable alarms
- STD-Z80, STD-8085, STD-8088, STD-68xx and 68000 compatibility
- On-board software controlled priority interrupt controller
- AC/DC power-fail and low-battery detect circuitry and registers
- On-board battery that supports RTX power-fail and clock functions, as well as the MS-xxx series battery back-up functions



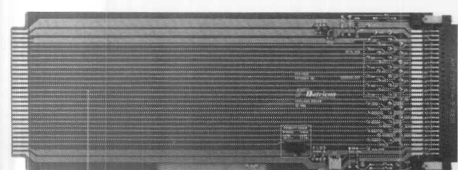
### ROM-12A NMOS Byte-wide EPROM Programmer

- Reads, verifies and programs JEDEC Standard 2716, 2732, 2732A, 2764, 27128 and 27256 EPROMS
- Directly driven by Datricon's VIA-02B Parallel Input/Output board
- Supported with software drivers supplied in Datricon's development and software systems



### EXT-BD Extender Board

- STD-Bus signals are identified by the appropriate mnemonic and supplied with a test terminal
- Push-button provides ready access to PBRESET, slide-switch controls priority chain signals bypass (PCO, PCI)
- Status lamps provide visible indication of power supply status

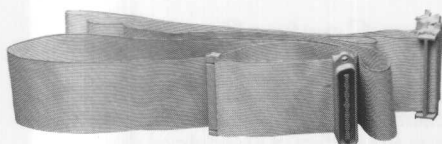
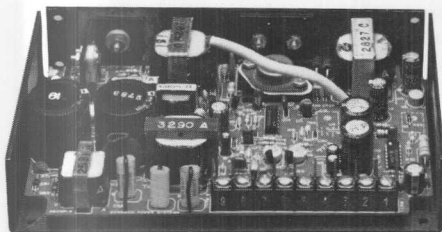
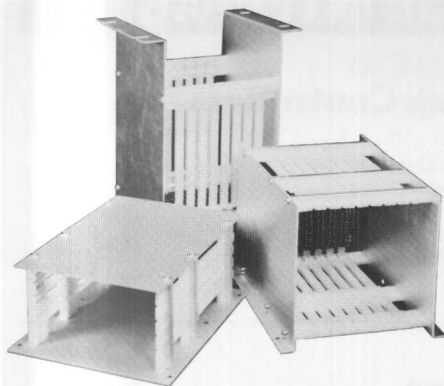


## ACCESSORIES

### Card Cases, Backplanes, Power Supplies, Cables, Chassis and Enclosures.

Datricon provides a full line to meet all your packaging and power requirements.

- 4, 7, 8, 13, 16, 24 and 32 slots
  - 0.5 and 0.625 inch centers.
  - Horizontal, vertical and rack mounts.
  - Six power supply series.
  - Complete system chassis and enclosures with power.
- 
- Power supplies from 40 watt to 200 watt, plug-in or full system.

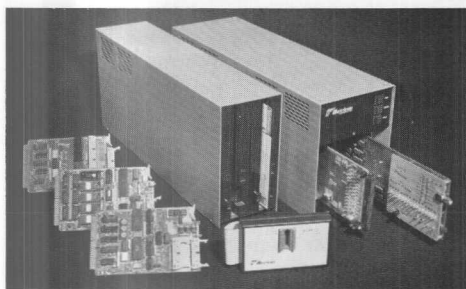


- Cables for all boards.

## DEVELOPMENT SYSTEMS

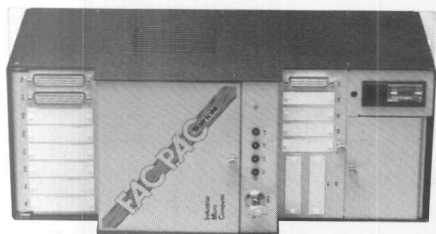
### STD BUS Development Systems, Prototype and Programmer Kits.

This line of dedicated development systems and tools provides a straightforward approach to the development of application code. These systems are all STD-based and primarily processor-specific. The DV Series can be used to develop applications from a wide selection of software environments. May also be used to provide a target-system environment as well as an independent development system.

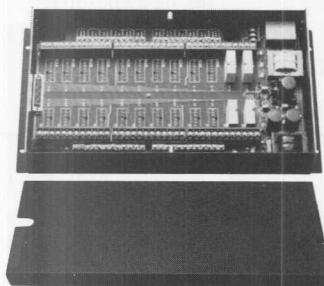


- DV8-1/2** ..... CP/M 2.2 Development System
- DV9-1/2** ..... OS-9 Development System
- FD-4T** ..... Dual DS, DD 8" Floppy Disk System
- FD-5T** ..... Dual DS, QD 5 1/4" Floppy Disk System
- DPROTO-80** ..... Complete Z80 Prototyping Kit
- DPROTO-09** ..... Complete 6809 Prototyping Kit
- CPM-PK80** ..... CP/M 2.2 Programming Kit (based on ACS-80)
- OS-PK09** ..... OS-9 Programming Kit (based on ACS-09)
- SPH-PK80** ..... Sphere-2.1 Programmer's Kit (based on ACS-80)
- SPH-PK09** ..... Sphere-2.1 Programmer's Kit (based on ACS-09)

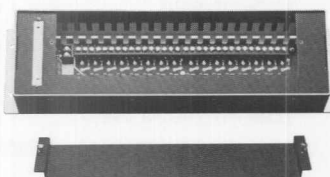
## INDUSTRIAL CONTROLS



IMC



AIO-PAC



DIO-PAC



SPHERE Trademark of Infosphere  
OS-9 Trademark of Microware  
UNIX Trademark of Western Electric  
D-FORTH Trademark of Datricon  
CP/M Trademark of Digital Research, Inc.

### IMC Industrial Microcomputer

Datricon's fully configurable STD Bus based system, packaged for the industrial controls environment. Includes accessories to accommodate real-world applications.

#### Model 80

- 8 slot system.
- Handles discrete and frequency I/O.

#### Model 100

- 8 slot system.
- Handles combinations of discrete, frequency and analog I/O.
- Rack or surface mount.

#### DIO-PAC

- 16 channel opto-isolation rack.
- I/O configured by plug-in modules.

#### AIO-PAC

- 16 input, 8 output analog signal conditioning racks.
- 20mA current source built in.

#### IMC-RDM

- Remote data multiplexer system.
- Discrete industrial I/O.
- Serial RS232 or RS422 link to IMC.

## SOFTWARE

### SPHERE® ROM-Based Software for Real-Time Multi-tasking.

- Threaded, interpretive, stack-oriented language.
- Produces ROM-able object code applications.
- Extensible, fast and efficient.
- Transportable across wide base of processors (Z80, 6809, 68000, 8088 etc).

### CP/M 2.2® A Popular Operating System for Z80-Based Applications.

- Supports high-level languages with many available applications.
- 8" and 5¼" diskettes (BIOS ROM available).
- Available for ACS-2A and ACS-80

### OS-9® A Popular Operating System for 6809-Based Applications.

- Features a UNIX-like file structure.
- Supports C, PASCAL, BASIC and 6809 assemblers.
- 8" disk and ROM set.

### D-FORTH 09 A ROM-based software System for Real-time Applications Using the 6809.

- Inherently ROM-able object code.
- Minimum system RAM requirements.
- High execution speed.



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CENTRAL AREA . . . Dallas, TX . . . . . Tel: (214) 991-7422  
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FRANCE . . . . . Tekelec Airtronic S.A. . . . . Tel: (1) 534-75-35  
JAPAN . . . . . Syscon Corporation . . . . . Tel: (03) 463-4017  
UK . . . . . Technitron, Inc. . . . . Tel: Camberley 26517  
SOUTH AFRICA Electronic Building Elements Ltd. . . . Tel: 46-9221/7

Contact factory for prices, discount and export items. All prices are FOB factory, and are subject to change without notice. Allow 2-4 weeks for delivery of product in quantities of 1 to 9.

## Sales Representatives

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(219) 747-7661 or 0440

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